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ABSTRACT

The purpose of this paper was to test the hypothesis set forth by Farnham-Diggory (1967) and Denner (1970) that problem readers lack representational and syntactic competence. A random sample of 72 first graders, stratified by sex and social class, was given the Gates-MacGinitie Reading Test and the Farnham-Diggory tasks. An analysis of variance showed no significant differences between sexes and social classes on the Farnham-Diggory tasks. Low, although significant, correlations were found between symbol synthesis scores and scores on the reading achievement test. These results were in contrast to Denner's findings of a deficit in a group of first grade problem readers who had been selected and classified by their teachers rather than randomly chosen. The results failed to support strongly the hypothesis of an important relationship between representational and syntactic competence, as measured by the Farnham-Diggory tasks, and achievement in beginning reading. (Author/RB)

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The Relationship between Representational Competence and Achievement in Beginning Reading

Joan Treiman

Purpose

Building on the work of Gibson (1965), Farnham-Diggory (1967) hypothesized that the integration of symbols into higher-order units might be a necessary condition for the development of reading competence.

Denner (1970) tested the hypothesis that problem readers lacked representational competence. He gave problem readers tasks previously administered to normal children by Farnham-Diggory (1967, 1970) and found that his group of problem readers was markedly less competent in synthesizing whole sentences from logographs than Farnham-Diggory's group of normal children.

Neither researcher used a random sample of subjects. In addition, they did not control for sex and social class, so often factors which are strongly associated with reading success.

The study reported here used a random group of subjects from a representative population, controlled for sex and social class, and used a standardized reading test as

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a measure of reading competence rather than relying on teacher judgment. These procedures were planned to lead to a more reliable measure of the presumed relationship between reading skill and the ability to snythesize symbols.

Procedures and Instruments

A stratified random sample of 72 subjects was drawn from a consolidated regional school district. All 459 first graders were divided into two social classes, using Hollingshead's two factor index and then further subdivided by sex.

The Gates-MacGinitie test was used to measure reading ability. The Farnham-Diggory Verbal Synthesis Tasks, consisting of four subtasks, were administered individually to the subjects, following the procedures outlined by her.

Analysis of the results was divided into two components: First, an analysis of the variance between the mean scores for the four groups of subjects was done. Second, a correlational analysis of the relationship between reading scores and the Farnham-Diggory tasks was carried out.

Results and Conclusions

Enaction, pictograph and logograph subtasks were used primarily as an introduction to the synthesis tasks. Within this age range, it was expected that children would master them with ease. This proved to be the case.

The synthesis subtask was the focus of further analysis. A Kruskal-Wallis test showed that the differences between the mean scores on the symbol sentences for the four groups were not significant. There were no significant differences between the sexes and the social classes.

The correlational analysis, using the Reg-cor program, showed a correlation of .29 between the synthesis scores and the comprehension scores on the Gates-MacGinitie reading test. The correlation between the vocabulary score of the Gates-MacGinitie and the synthesis score was .31. While low, both correlations were statistically significant for 72 cases.

Emphasis on cognitive factors such as representation is a relatively new development in the literature on reading.

Farnham-Diggory's tasks represent a pioneering attempt to measure cognitive synthesis; she has stated that the tasks have no claim to factorial purity. Factors within the tasks themselves, as well as differential familiarity with the logographs (Treiman, 1974) may have lowered the relationship

between cognitive synthesis and reading, which has been predicted on theoretical grounds.

Certainly the evidence from this experiment did not support the view that the synthesis tasks, as used here, measure a component of great importance in the reading process.

Instead, it pointed to the need for more carefully conceptualized research before conclusions were drawn about factors relating to reading.

BIBLIOGRAPHY

Denner, B. Representational and syntactic competence of problem readers. Child Development, 1970, 41, 881-887.

Farnham-Diggory, S. Symbol and synthesis in experimental "reading". Child Development, 1967, 38, 221-231.

Farnham-Diggory, S. Cognitive synthesis in Negro and white children. Monographs of the Society for Research in Child Development, 1970, 35 (2, Serial No. 135).

Treiman, J. Familiarity as a factor in cognitive synthesis tasks. Paper presented at a meeting of American Educational Research Association, Chicago, April, 1974.